Government spending in Canada and the United States

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Abstract

It is well known that total government spending relative to GDP is higher in Canada than in the United States, but it is less clear where exactly Canadian governments spend more (or less) than their American counterparts. The reason for the confusion is that there are no readily available, internationally consistent statistics on consolidated government spending by function.

This study adjusts data from national sources in order to develop reasonably comparable series for total government spending by function in Canada and the US. Based on these new series, we identify which spending categories explain the gap in spending between the two countries and we examine changes in the composition of spending between 1992 and 2001.

We find that the most important category in explaining the gap in program spending between the two countries is income security, which includes, among other things, all social assistance and public pension benefits. Spending on health and education relative to GDP is virtually the same in both countries. Over time, the gap between program spending relative to GDP in the two countries has been reduced substantially. The main categories in which the gap was narrowed were income security, economic affairs (which includes, among other things, transportation and communications, and natural resource conservation and industrial development) and education.

Résumé

Il est généralement reconnu que le ratio des dépenses de l'ensemble des administrations publiques au PIB est supérieur au Canada par rapport aux États-Unis, mais il est moins évident dans quels secteurs les gouvernements canadiens dépensent plus (ou moins) que les gouvernements américains. Cette confusion tient au fait qu'il n'existe pas de statistiques facilement disponibles ou cohérentes à l'échelle internationale au sujet des dépenses publiques globales par fonction.

Cette étude rajuste les données de sources nationales afin d'établir des séries raisonnablement comparables des dépenses publiques par fonction au Canada et aux États-Unis. Selon ces nouvelles séries, nous identifions les catégories de dépenses qui expliquent l'écart de dépenses entre les deux pays et nous examinons l'évolution de la composition des dépenses entre 1992 et 2001.

Nous observons que la catégorie la plus importante qui explique l'écart des dépenses de programmes entre les deux pays est celle de la sécurité du revenu, qui inclut, entre autres, toutes les prestations d'aide sociale et des régimes de retraite universels. Le ratio des dépenses en santé au PIB et des dépenses en éducation au PIB sont presque identiques dans les deux pays. Graduellement, l'écart entre le ratio des dépenses de programmes au PIB dans les deux pays a été réduit sensiblement. Les principales catégories dans lesquelles l'écart a été réduit ont été la sécurité du revenu, les affaires économiques (ce qui comprend, entre autres, les transports et les communications, la conservation des ressources naturelles et le développement industriel) et l'éducation.

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1. Introduction

It is well known that total government spending relative to GDP is higher in Canada than in the US. In 2001, total Canadian government outlays amounted to 38.0 per cent of GDP, compared with only 31.2 per cent in the US (according to OECD (2002), on a national accounts basis). Higher debt service payments accounted for just under half of this difference,[1] but program spending – all spending less debt charges – relative to the size of the economy was still 3.6 percentage points higher in Canada than in the US (31.4 per cent of GDP in Canada compared with 27.8 per cent in the US). It is not well known where exactly Canadian governments spend more (or less) than their American counterparts. Piecemeal information indicates some areas where spending in the two countries differs – for example, spending on national defence is known to be lower in Canada – but this does not permit a rigorous analysis of the gap in program spending in the two countries.

The reason for the confusion is that there are no readily available, internationally consistent statistics on consolidated government spending by function. This paper helps fill that void by adjusting existing data on spending by function from Canadian and US sources to enhance comparability. The new series are then used to explain the main differences in spending patterns between the two countries.[2]

The paper begins by describing the data sources that are generally used for international comparisons of government spending and the problems associated with these sources. Next, section 3 describes the data sources used in this paper and the adjustments that are made to improve comparability. Section 4 uses the newly constructed data series to analyze spending trends in Canada and the US between 1992 and 2001, the period during which both countries experienced a significant improvement in their public finances. Section 5 compares the results obtained from these new series with those based on conventional sources, and section 6 concludes.

2. Existing data on government spending by function

Most international comparisons of government spending by function rely on various data sources from the OECD, which produces separate publications or databases on spending on health, education and other areas.[3] The problem with combining these data sources is that they are generally survey-based and thus not consistent with one another, nor with national accounts measures of total spending. In addition, spending in any given category is not necessarily comparable across countries.

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[1] Higher Canadian debt charges accounted for just under half of the difference in total government outlays in Canada and the US in 2001, and accounted for around 30 per cent of the difference in the early 1990s.

[2] Explaining the gap in spending between the two countries is the main focus of the paper. The paper does not aim to evaluate the level of services provided in the two countries, which would necessitate consideration of private expenditures as well as the extent to which social benefits are taxed.

[3] For example, *Education at a Glance - OECD Indicators* and *OECD Health Data*.

It should also be noted that the IMF publishes data on government spending broken down by function in its *Government Finance Statistics Yearbook*. However, the publication does not provide consolidated figures for total government (instead, it provides data for three separate sectors of government: consolidated central government, state/provincial governments and local governments). As such, it is not very useful for comparisons across countries that have more than one level of government with different distributions of responsibilities and intergovernmental transfers.

3. Creating more comparable data series

To address these problems, this study is based on consolidated total government spending data, broken down by function, produced by the national statistical agency of each country: the US data come from the Bureau of Economic Analysis' National Income and Product Accounts (NIPA) and the Canadian data from Statistics Canada's Financial Management System (FMS). Next, we made a number of adjustments to the data for greater comparability. The detailed adjustments are explained in the annex. However, a few major adjustments and caveats about the data should be highlighted before proceeding to the main results.

First, due to differences in the availability of spending data broken down by function for the two countries, the measure of total spending used in the study differs from the usual national accounts measure of total government outlays. The measure we use is the figure closest to the national accounts measure of spending for which a breakdown by function is available. A number of adjustments to this figure are needed in order to reach the usual national accounts measure of total spending (e.g., capital transfers received must be subtracted). However, sufficient data are not available to break these adjustments down by spending category, so they are not included in the measure of outlays used in this study. As shown in the annex, the measure of program spending relative to GDP used in this study is roughly 4 percentage points higher than the national accounts measure of program spending for both Canada and the US (although the reasons for this discrepancy are different for each country).

Second, differing treatment of government revenues from the sale of goods and services (e.g., university tuition fees) in the Canadian and US statistics has a significant impact on the total spending measures used in this study. Such revenues are already netted off of the US expenditure data (i.e., they are netted off of each specific spending category). However, this is not the case with the Canadian data, and a breakdown of these revenues by function is not available in the FMS statistics. Therefore, these revenues, which amounted to 3.1 per cent of GDP in 2001, are not netted off of the measure of Canadian government outlays used in this study. This means that our measure of outlays tends to overstate Canadian spending relative to US spending. Sufficient data are not available to eliminate this inconsistency, although we were able to partially correct the problem by adding back in US state and local government revenues relating to tuition and medical charges, which make up the largest component of US government sales. This largely addresses the inconsistency with respect to the health and education categories, but total US spending is still understated in relation to the Canadian figures used in this study.

For these reasons, the following results should be considered with some caution. They are useful in identifying broad patterns in Canadian and US government spending, but the exact values of the differences in spending should be viewed within a margin of error.

4. Comparing program spending in Canada and the US

According to the definition of spending used in this study, program spending relative to GDP was 2.9 percentage points higher in Canada than in the US in 2001. Non-defence program spending relative to GDP was 5.7 percentage points higher in Canada (Table 1).

Table 1
Breakdown of program spending by function, 2001
(% of GDP)

function	US	Canada	gap
income security	7.1	11.0	**3.9**
housing and community services	0.5	1.4	0.9
economic affairs	3.2	3.5	0.3
recreation and culture	0.3	1.0	0.7
education	6.2	5.9	**-0.3**
health	6.7	7.0	**0.4**
general public service	1.9	1.9	0.0
public order and safety	2.2	1.9	-0.2
national defence	4.0	1.2	-2.8
total program spending*	31.9	34.8	2.9
non-defence program spending*	27.9	33.6	5.7
memo:			
total program spending on NA basis	27.8	31.4	3.6

* Several adjustments must be made to these figures to reach the national accounts measure of total program spending - see annex.

By far the most important category in explaining this difference was income security, where spending relative to GDP was 3.9 percentage points higher in Canada. This category includes all social assistance (e.g., EI, elderly benefits, refundable tax credits such as the GST credit and Canada Child Tax Benefit, and outlays relating to CPP/QPP), workers' compensation benefits, veterans benefits (including medical services) and motor vehicle accident compensation.

After income security, the second largest difference in spending was found in housing and community services, with a 0.9-percentage point difference. This category comprises spending on housing, regional planning and development and the environment. Spending on health and education as a share of GDP was virtually the same in both countries.

Over time, the gap between program spending relative to GDP in the two countries has been reduced by more than two-thirds, falling from 10.9 percentage points in 1992 to 2.9 percentage points in 2001 (Table 2). Similarly, the gap in non-defence program spending narrowed from 15.2 to 5.7 percentage points.

The main categories in which the gap was narrowed were income security, economic affairs (which includes, among other things, transportation and communications, and natural resource conservation and industrial development) and education. The change in defence spending put upward pressure on the program spending gap, since defence spending as a share of GDP declined more in the US than in Canada.

Table 2

Change in government spending: 1992-2001

(% of GDP)

	1992			2001			change	change	change
function	US	Canada	gap	US	Canada	gap	in US	in Can.	in gap
income security	7.9	14.3	6.4	7.1	11.0	3.9	-0.9	-3.4	**-2.5**
housing and community services	0.7	1.9	1.2	0.5	1.4	0.9	-0.2	-0.5	-0.3
economic affairs	3.2	5.8	2.5	3.2	3.5	0.3	0.0	-2.2	**-2.2**
recreation and culture	0.3	1.3	1.0	0.3	1.0	0.7	0.0	-0.3	-0.3
education	5.7	7.7	2.0	6.2	5.9	-0.3	0.4	-1.9	**-2.3**
health	6.0	7.3	1.2	6.7	7.0	0.4	0.7	-0.2	-0.9
general public service	2.0	2.4	0.4	1.9	1.9	0.0	-0.1	-0.4	-0.4
public order and safety	1.9	2.3	0.5	2.2	1.9	-0.2	0.3	-0.4	-0.7
national defence	6.0	1.7	-4.3	4.0	1.2	-2.8	-2.0	-0.5	1.5
total program spending*	33.7	44.6	10.9	31.9	34.8	2.9	-1.8	-9.8	-8.0
non-defence program spending*	27.7	42.9	15.2	27.9	33.6	5.7	0.2	-9.3	-9.5
memo:									
program spending on NA basis	29.8	40.6	10.8	27.8	31.4	3.6	-2.0	-9.3	-7.3

* Several adjustments must be made to these figures to reach the national accounts measure of total program spending - see annex.

The narrowing of the gap in income security spending was achieved through a 3.4-percentage point decrease in Canadian government spending on income security as a share of GDP. About two-thirds of the decrease was attributable to the federal government and about one-third to the provincial-local sector. Almost three-quarters of the decline at the federal level was achieved through lower EI spending.

The reduction in the gap in economic affairs reflects a drop of 2.2 percentage points in Canadian government spending. Outlays for resource conservation and industrial development accounted for about half of the decline (including lower federal spending on agriculture, trade and industry), with the remaining half due to lower spending on transportation and communications (including lower federal spending on air and rail transportation).

US spending on education remained roughly constant as a share of GDP over this period, whereas Canadian spending on education relative to GDP declined by nearly 2 percentage points. About three-quarters of this decrease can be attributed to lower spending by provincial

governments and school boards on elementary and secondary education. By 2001, the share of GDP devoted to government spending on education was virtually the same in both countries.

5. Alternative methods of comparing government spending

As mentioned earlier, most international comparisons of government spending by function rely on a combination of data sources from the OECD. The problem with combining these data sources is that they are generally survey-based, and thus are not consistent with one another nor with national accounts measures. For this reason, the data are not necessarily comparable across countries.

In this section, we compare our Canada-US data series with data published in a recent OECD study on government spending (Atkinson and van den Noord (2001)), and illustrate how the conventional approach to comparisons of spending by function may be misleading. Atkinson and van den Noord present a cross-country comparison of government spending by function, using data from a number of databases and publications, mainly from the OECD. Table 3 shows a comparison of their data with ours. It is encouraging to note that both methods yield roughly similar results for comparisons of education, health and national defence. Beyond these categories, however, the two data sets diverge.

Table 3
Comparison with OECD study
1995 total government program spending (% of GDP)

	OECD data			Kennedy-Gonzalez data		
	US	Canada	gap	US	Canada	gap
education	5.0	5.8	0.8	5.8	6.9	1.1
health	6.5	6.5	0.0	6.5	6.6	0.0
national defence	5.2	1.4	-3.8	4.7	1.5	-3.3
other	16.6	15.4	-1.2	15.1	24.5	9.3
implied total program spending	33.3	29.1	-4.2	32.2	39.3	7.2
NA total program spending	28.0	35.5	7.4	28.0	35.5	7.4

Adding up all of the categories presented by Atkinson and van den Noord (not all are reproduced in Table 3) yields the "implied total program spending" shown in Table 3. Atkinson and van den Noord note that the data for expenditure by function may not add up to total expenditure on a national accounts basis, as the data are drawn from different sources. In other words, portions of program spending are left out of the study as they have not been assigned to any particular category. It should be noted that the implied total program spending in our study does not add up to the total national accounts-based measure either, as described in the annex. However, the aggregated OECD data leave out such a large portion of Canada's program spending that the amount covered by the study is lower than that of the US. Obviously, some important factors are missed in this approach, which raises questions about the data (which categories may be distorted by the unallocated spending?).

For this reason, it is important to exercise caution when using a combination of different data sources. While such data sources may be very useful for comparing a given category of government spending, they are inadequate if the goal is to provide a decomposition of government spending to account for differences in total spending across countries.

6. Conclusion

This paper explains how we have developed reasonably consistent series to use for comparisons of government spending by function in Canada and the US. Our goal in developing these series was to explain the gap between program spending relative to GDP in Canada and the US (i.e., to identify the areas in which Canadian governments spend more than their American counterparts).

Our data suggest that the most important category in explaining the gap is income security. Spending on health as a share of GDP is slightly higher in Canada, and spending on education is virtually the same in both countries. We also find that the gap in program spending narrowed from 1992 to 2001, with reduced income security spending in Canada contributing the most to this trend, followed by reduced spending on economic affairs and education.

The methodology described in the paper is shown to be more appropriate for the purpose of decomposing government spending by function than the main alternative, which is to combine various types of OECD data that are not necessarily consistent with one another nor with national accounts data. At the same time, it is important to view our results within a margin of error, as a number of adjustments must be made to the measure of program spending used in our study in order to arrive at the national accounts measure.

Annex – Methodology

A.1 Reconciliation with national accounts

As noted earlier, the starting point for the study of the breakdown of spending by function is the figure closest to the national accounts measure of spending[4] that can be broken down by function. This section describes the adjustments to the starting point that are needed to reach the national accounts measure of total outlays and program spending.

Table 4
Calculation of total government expenditures on a national accounts basis (2001)

line		US $US billions	Canada $Cdn millions	US % of GDP	Canada % of GDP
1	starting point for breakdown by function: total outlays	3,555	433,634	35.3	39.7
2	***related measure of program spending***	***3,214***	***380,230***	31.9	34.8
3	- revenue from sale of goods and services		34,363		3.1
4	- state and local tuition and medical charges	163		1.6	
5	+ net purchases of nonproduced assets	9.6		0.1	
6	- net capital transfers received	35.4		0.4	
7	- total capital transfers received		5,848		0.5
8	+ interest paid on certain pension liabilities		14,683		1.3
9	- consumption of fixed capital	222.4		2.2	
10	total spending	3,144	408,106	31.2	37.4
11	total program spending	2,804	340,019	27.8	31.1
	compare to:				
12	national accounts total spending	3,144	415,277	31.2	38.0
13	national accounts program spending	2,804	342,524	27.8	31.4

Note that the Canadian data used in the study are on a fiscal year basis, whereas the US data and the national accounts measures of total spending are on a calendar year basis.

The first two lines of Table 4 show the measure of total outlays and the related measure of program spending which form the starting point for the study. Note that for both countries, the measure of program spending relative to GDP used in the study is roughly 4 percentage points higher than the actual national accounts measure, although the reasons for this discrepancy differ, as described below. The US starting point is essentially the sum of government current expenditures and gross investment from the National Income and Product Accounts, with some minor adjustments. The Canadian starting point is the FMS measure of total government expenditures, with one adjustment for government employee pension plans as described in the next section, "Deriving comparable series by function".

Line 3 subtracts government revenue from the sale of goods and services from the Canadian outlays figure. As mentioned earlier, these revenues are already netted off of each category in the US data. However, since we added back in state and local government revenues from tuition and medical charges to make the US education and health expenditure categories more consistent

[4] As calculated by the OECD in its *Economic Outlook* series.

with those of Canada, these revenues must then be subtracted again, as shown in line 4, in order to calculate total outlays on a national accounts basis.

Lines 5 and 6 represent normal calculations needed to calculate national accounts total outlays when starting from the sum of government current expenditures and gross investment. Line 7 subtracts *total* capital transfers received from the Canadian data, rather than *net* capital transfers as in the case of the US, because FMS data already include capital transfers paid.

Line 8 adds an estimate of interest paid in respect of non-autonomous government employee pension plan liabilities to the Canadian figure, since this should be included in government debt charges under the national accounts but is not included in consolidated FMS data.

In line 9, consumption of fixed capital is subtracted only from the US figure because the Canadian FMS data are on a cash basis, therefore consumption of fixed capital does not need to be subtracted in the calculation of total outlays.

Lines 10 and 11 confirm that the figures for total outlays and program spending used in this study can be reconciled with the standard national accounts measures. In Canada's case, since the paper is based on FMS data, there is a small discrepancy between the adjusted FMS figures shown in lines 10 and 11 and the actual national accounts measures in lines 12 and 13. However, the difference is relatively minor (0.2 per cent of GDP in the case of program spending).

A.2 Deriving comparable series for spending by function

A number of adjustments were needed to produce comparable series for government spending by function. The first adjustment was to align the different categories of spending in the two countries. Table 5 shows how the categories defined by each statistical agency were combined.

As could be expected, it was not possible to align all functions in the two countries perfectly. For example, the group of functions including immigration in Canada is matched with the US category "economic affairs", although immigration in the US system is classified under "public order and safety". Similarly, the expenditures of CMHC are classified in the housing category in Canada, but "housing credit" mortgage insurance is classified under "economic affairs" in the US. Finally, the US postal service is included in the "economic affairs" category, whereas postal services are not classified as government expenditures in FMS (note, however, that US postal service income is offset against expenditures). Nevertheless, most major categories of spending can be arranged in a consistent manner in both countries.

Table 5
Functional classification of program spending*

Canada	United States
general government services foreign affairs and international assistance other	general public service minus net interest paid
national defence	national defence
protection of persons and property (excluding national defence)	public order and safety
social services minus pension plan benefits	income security
health	health
education	education
recreation and culture	recreation and culture
transportation and communications labour, employment and immigration resource conservation and industrial development research establishments	economic affairs
housing regional planning and development environment	housing and community services

* Referring to FMS labels of categories for Canada and NIPA labels for the US

Next, a number of adjustments were made within the categories. In contrast to the national accounts, FMS government program spending data include spending on pension and other benefits paid under the non-autonomous pension schemes. To correct this discrepancy, the line "pension plan benefits and other expenditures" was subtracted from the income security category.

Finally, the Canadian data include outlays related to veterans medical care under income security, whereas the US system classifies such expenditures under health. For the sake of consistency, the budget values for net outlays on veterans medical care were subtracted from the US health category and added to income security.

References

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Organisation for Economic Co-operation and Development (OECD) (2002), *OECD Economic Outlook No. 72.*